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INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

S-E-C-R-E-T

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A report on recent meetings of and operational procedures of the CEMA Iron and Steel Committee (presumably the Permanent Commission on Ferrous Metallurgy)

Note is made of two committee plenary sessions held in Moscow in October and December 1959 at which general-interest topics were discussed rather than specific technical issues. The latter were taken up at technical sub-committee meetings held independently of the plenary sessions. During September, October and November 1959 a number of bilateral, and occasionally mulitalateral meetings took place: e.g., a Czech-Hungarian meeting on stainless steel production and a Soviet-Hungarian meeting on the outlook for coking coal supplies and on coke - saving measures. Details on the technical sub-committee meetings are given.

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SOVIET BLOC

Economic/Political

ACTIVITIES OF THE IRON AND STEEL COMMITTEE OF C.M.E.A.

I. WORKING METHODS OF THE COMMITTEE

In the Iron and Steel Committee of the Council for Mutual Economic Aid (C.M.E.A.) the method of work as operated during the latter half of 1959 is that problems are handled first at the lowest level, and are referred stage by stage to the next higher level. There is no question of decisions being taken first at the top, and then passed down to the lower committees and sub-committees for execution. 25X1

2. The lower level of the C.M.E.A. machinery in the iron and steel sector consists of seven sub-committees, each having a corresponding national sub-committee in each of the member countries. They discuss matters concerning respectively:

1) Basic materials, excluding coke.
2) Coke.
3) Raw iron.
4) Steel.
5) Rolled products.
6) Foundry technology.
7) Research.

These sub-committees work, in the first instance, independently of each other, both at the national and international (or, as the term is used, "central") level.

3. Matters first come to the notice of the national sub-committee corresponding to the above seven divisions. For example, if an export corporation receives an order, and to fulfil this order requires the manufacture of a special type of steel, this problem will be referred

first to the national research institute for the iron and steel industry. This Institute will consult with the corresponding institutes in other C.M.E.A. countries to see whether the particular steel in question has been manufactured in any of these countries. If not, an experimental method of making the steel will be worked out in the Institute, and subsequently the task of large scale production will be given to the steelworks which is most suitably equipped to carry it out.

4. A report is then made to the relevant national sub-committee corresponding to the (international) sub-committee of the C.M.E.A. Iron and Steel Committee. This national sub-committee will then (if the matter is considered of sufficient importance) inform the Central Secretariat of the (international) sub-committee in MOSCOW. If the matter warrants it, this report will be presented to, and discussed by, the (international) sub-committee.

5. If the matter is considered of sufficient importance, the (international) sub-committee may decide that a report, stating that the steel in question has been successfully manufactured, and describing the processes adopted, will be sent to the Central Secretariat of the Plenary Session of the Iron and Steel Committee. If any wider issues arise, e.g. as regards the desirability of making this particular steel in one C.M.E.A. country only, the matter may be placed on the agenda for discussion by the Plenary Session of the Iron and Steel Committee. It is, however, normally the practice for agreement to be reached at sub-committee level, so that the Plenary Session merely gives formal ratification to decisions agreed on previously.

6. Supposing, however, that there is a difference of view - e.g. if the Czechs think that a particular type of steel could be better manufactured in CZECHOSLOVAKIA than in HUNGARY, then there may be two separate reports presented to the Plenary Session of Iron and Steel Committee, asking for a final decision. But since the delegates to the sub-committees are all technicians (not politicians or salesmen), knowing each others' problems and anxious to be helpful to each other, it is very rare that agreement cannot be reached amicably in the sub-committees.

7. As regards iron and steel matters at least, there is no question of C.M.E.A. decisions being imposed from above. The resolutions of the Iron and Steel Committee are generally a mere ratification of decisions agreed on previously in private discussions. Moreover, they are only recommendations, not commands, but as they have been worked out in consideration of the circumstances of each country, there is little likelihood of their being "disobeyed" by any member country.

8. At the Committee and sub-committee meetings, all delegates have equal status, and there is no question of the Russians laying down the law to the others. There is no longer any question of decisions being taken unilaterally by the Russians and then being forced on to the East European satellites. As one 25X1 put it, the method of "imperatives", which operated up to four or five years ago, has completely disappeared.

II. RECENT MEETINGS OF THE COMMITTEE

9. On occasions when Plenary Sessions of the Iron and Steel Committee are announced as having taken place (as for example the meeting in MOSCOW in December 1959) there are in fact a large number of separate meetings of sub-committees on a bilateral and multilateral basis, and the Plenary Session merely ratifies the decisions reached at these working meetings. For example, in MOSCOW in December 1959 there were separate meetings of the Research Committee, the Coke Committee, and the Basic Materials Committee. Similar meetings took place at the time of the meeting of the Plenary Committee in MOSCOW in October 1959. In so far as the Plenary Committee "discusses" anything, it discusses wider problems of general interest rather than specific technical issues.

10. Meetings of the technical sub-committees are held from time to time independently of the meetings of the Plenary Committee. During September, October and November 1959 a number of bilateral, and occasionally multi-lateral, meetings took place. In November, for example, a meeting of the Czech and Hungarian delegations to the Research Sub-Committee exchanged experiences

in the production of various types of stainless steel. At a meeting of Russian and Hungarian delegates to the Foundry Technology Sub-Committee, methods of coke-saving were discussed (see para.18 sqq.).

III. C.M.E.A. MEETING AT SOFIA

11. At the C.M.E.A. Plenary Session in SOFIA in December 1959 certain iron and steel questions were on the agenda, but only in order to ratify and publicise decisions already taken at meetings of the Iron and Steel Committee. Nothing is known of any decisions affecting the iron and steel industry having been taken at SOFIA, other than those to which reference was made in the official communiqués. At this Plenary Session of the C.M.E.A., the same absence of "imperatives" could be observed as at the meetings of the Iron and Steel Committee.

IV. SPECIAL STEELS

12. A problem on which considerable work has been done in HUNGARY, and which was reported on at the meeting of the Research Sub-Committee of the Iron and Steel Committee in MOSCOW in December 1959, was the production of various special steels.

13. As a result of extensive work done on this problem, Hungarian steelworks were able, in the first manufacturing operations, to produce MTA steels with a breaking point beyond the acceptable minimum of 12 kilograms per square millimetre, and achieved strengths up to 16 kilograms per square millimetre. Subsequently, by means of improved structure of the steel, this has been raised to 22 kilograms per mm^2 at Höhler 3 stress while retaining a fusion strength of over 40 kilograms per mm^2. The use of these MTA (Manganese, Titanium, Aluminium) steels has achieved material savings up to $33\frac{1}{3}$ per cent. These fine-structure steels have perfect weldability and with either arc welding or acetylene welding there are no transition zones, the original material and the welded areas having exactly the same structure. During the last few months trials with these steels have been made in shipbuilding and have been entirely successful.

14. The nickel content of fully stainless steels has been reduced to less than $3\frac{1}{2}$ per cent. By the use of nitride alloys, phases of manufacture which previously had to be carried out in a vacuum or in inert gas can now be done under normal conditions, thus making manufacture considerably cheaper and allowing these stainless steels, which have good welding properties, to be used more widely.

15. Another special requirement which has now, after long research, been successfully met was for special steel for magnetic purposes (similar to the "PERMALLOY" steel made in the West) with induction capacity up to 26,000/27,000 gauss. This steel has met an outstanding requirement of the TRANSFORMATOR enterprise in BUDAPEST.

V. PROFILE MANUFACTURE

16. At the meetings in MOSCOW in December 1959, the national steel industries of all the East European industries were asked to investigate the conclusions of an article

17. This article attracted considerable interest in all the East European countries, and the Iron and Steel Committee asked each of the member countries to make a detailed appraisal of it, to see whether or not its conclusions corresponded with the true state of affairs in the East European steel industries, and whether further improvements in profile production could not be achieved.

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VI. USE OF OIL AND NATURAL GAS

18. The possibilities of saving coke in the iron and steel industry by using crude oil and natural gas have been the subject of a great deal of research and trials.

19. During the previous year, experiments had been made in HUNGARY in the use of crude oil, but without success. Injection of crude oil led to endothermic effects, so that the material in the zone of incandescence cooled considerably. Even when various methods of blowing in oxygen were tried, continuous working was impossible. It has therefore been decided that no further attempts will be made to inject crude oil into blast furnaces.

20. The use of natural gas has, however, been developed with considerable success. In HUNGARY, a pipeline had been built from ROUMANIA to supply the Hungarian chemical combine at TISZA with natural gas, but it was found that the chemical combine was not able to use all the natural gas. An extension pipeline was therefore built to carry the unwanted gas to the steelworks at DIOSGYÖR.

21. The natural gas is first subjected to a cracking process, and is then blown in to the blast furnaces. In order to obtain a significant saving in coke it has been found necessary to blow in large additional supplies of oxygen, not only at the point where formerly air, and now air mixed with natural gas, is blown in, but at a further point higher up, in the upper layers of the incandescent zone. There is still an endothermic effect caused by the use of the natural gas, but this is compensated by the introduction of the additional oxygen, and cooling off of the material is kept under control. The Russians have had similar results in their trials with natural gas.

22. This use of natural gas together with oxygen has led to a saving of coke of the order of over 11½ per cent, though against this must be counted the disadvantage of having to supply large quantities of oxygen. At DIOSGYÖR, it has been decided to build a large plant to generate the oxygen required for this process.

23. Attempts to use natural gas in Martin furnaces have also been successful. In DIOSGYÖR 4 Martin furnaces are now fired exclusively with natural gas, and it has been found unnecessary to supplement this with heating by blast furnace gas or generator gas. Here too, the Russians have been working on similar lines and have also had successful results. An ultra-modern steelworks with blast furnaces and Martin furnaces which is being built N.N.E. of LENINGRAD on the line from LENINGRAD to ARCHANGELSK is to use natural gas in all furnaces in order to save coke. This steelworks will be the first fully automated steelworks to be brought into production in the U.S.S.R. The site was visited at the end of October and early November 1959 by delegates to the Iron and Steel Committee meeting which had taken place in MOSCOW.

VII. COKE

24. Coke supplies have been the subject of various discussions, including a series of meetings of the Coke Sub-Committee held by delegates from various countries during the end of October and beginning of November 1959.

25. One of the conclusions of these discussions was that, after taking into account all planned development and expansion of the iron and steel industries throughout the C.M.E.A. area during the next seven years, coke supplies are definitely assured to meet all requirements.

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26. It was also decided that in the future the U.S.S.R. will not only deliver coke to the East European countries in the form of ready-coked coke, but to some extent will also deliver coking coal for coking at the East European steelworks. This is because it has been found that by coking all the coal in the U.S.S.R., more gas was produced than the Russian steelworks could use, while the East European steelworks had insufficient supplies of gas. As from 1.1.1960, HUNGARY, for example, is to receive over 400,000 tons of coking coal per annum which will be mixed with coal from KOMLÓ and coked in HUNGARY, the resultant gas being used at steelworks which are not yet connected up (as is DIÓSGYÖR) with the natural gas pipeline system.

VIII. STALINVAROS

27. Construction at STALINVAROS is going ahead well, at least very nearly to schedule. Present calculations are that:

(a) By the end of 1960, or early 1961 at the latest, the hot rolling section will be in operation, producing hot-rolled plates down to 2 mm. thickness.

(b) By 1963, or at the latest 1964, the cold rolling section will be finished, producing cold rolled plates from 2 mm. to 0.3 mm. thickness.

(c) By 1963, the total annual production will be 400,000 tons of all types of material.

IX. NEW STEELWORKS IN BULGARIA

28. A new steelworks now being erected in BULGARIA is intended to be a "model" up-to-date steelworks, incorporating all the latest production methods and technical developments available in the Soviet Bloc. All the member countries of the Iron and Steel Committee have contributed to the design of this steelworks.

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X. ELECTRICITY SUPPLIES

29. Since the coming into operation of the new turbines at TISZAPALKONYA (the steelworks in Upper HUNGARY now have priority for the supply of current from this power station) and the completion of the over-land transmission lines from CZECHOSLOVAKIA, there have been no difficulties over electric power supplies at the Hungarian steelworks.

XI. RELATIVE IMPORTANCE OF HUNGARY

30. Hungarian [redacted] are aware that HUNGARY produces only a negligible proportion of the steel output of the Soviet Bloc, and that HUNGARY is entirely dependent on other C.M.E.A. countries for supplies of basic materials and fuel. The annual output of the Hungarian steel industry is only 1.7 million tons per year, rising to 2.5 million tons in 1965, equivalent to 250 kilograms of iron per head of the population per year, compared with planned Russian production in 1972 of 130 million tons.

31. Any new plant planned by HUNGARY must have the full cooperation of C.M.E.A. and of HUNGARY's neighbours, since unless these countries and especially the U.S.S.R., accept commitments to supply the required quantities of basic materials and fuel, the capacity of the plants cannot be utilised.

32. However, Hungarian [redacted] consider that their contribution in terms of theory, research and manufacturing techniques gives HUNGARY a considerable importance in the iron and steel industry of the entire Soviet Bloc.

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